June 26, 1956 G. W. MITCHELL 2,752,273

METHOD OF STRIPPING CLEARER ROLLS

Filed Oct. 13, 1955 6 Sheets-Sheet 1

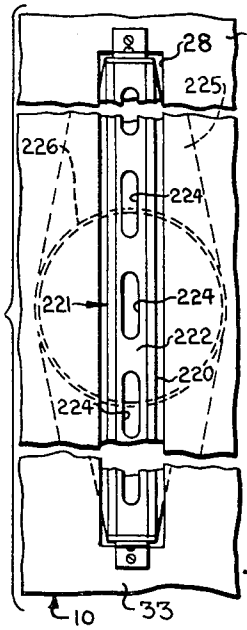


Fig-1-A

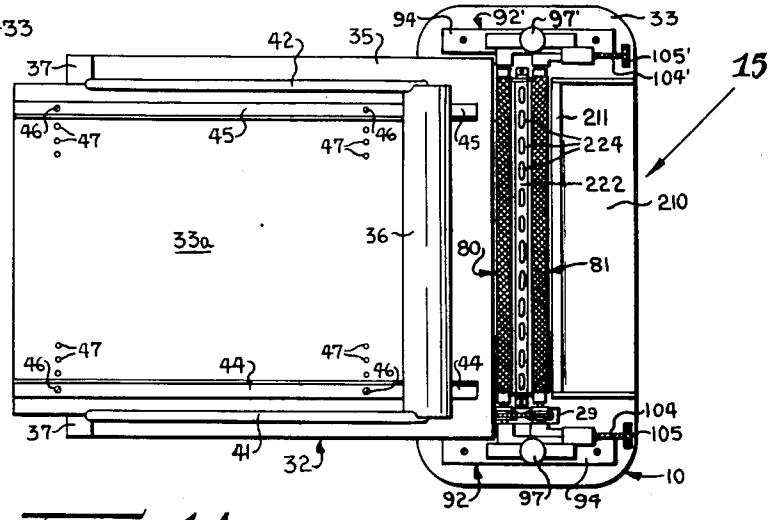


Fig-1

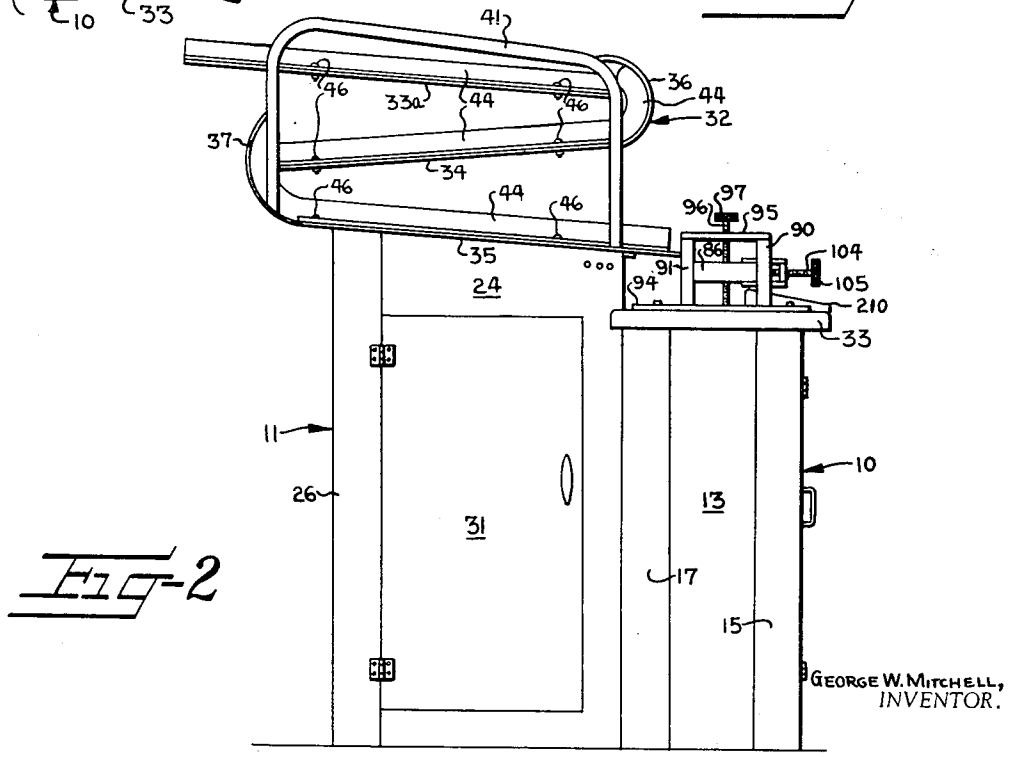


Fig-2

GEORGE W. MITCHELL,
INVENTOR.

BY Edson & Bell

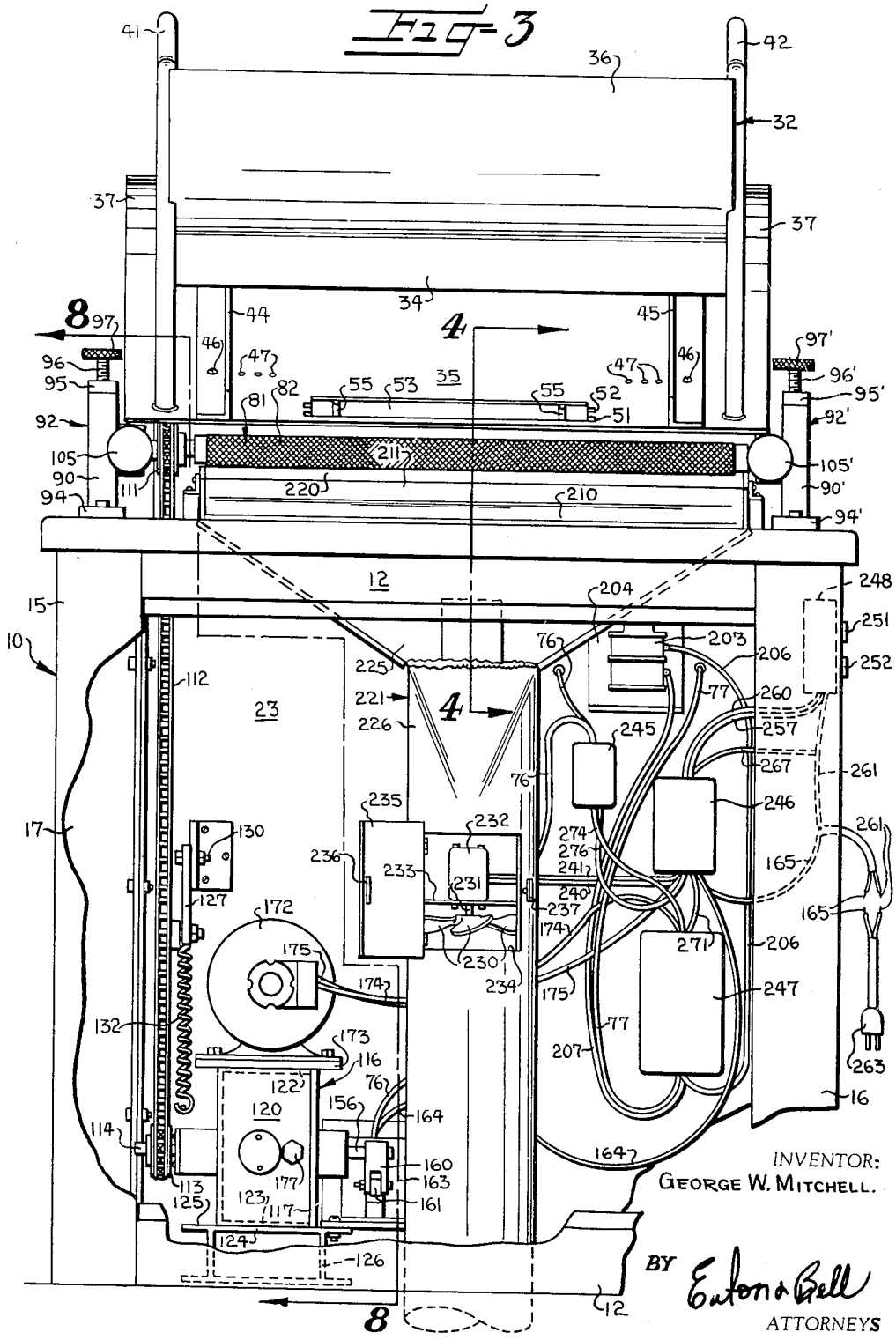
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June 26, 1956 G. W. MITCHELL 2,752,273

METHOD OF STRIPPING CLEARER ROLLS

Filed Oct. 13, 1955 6 Sheets-Sheet 2

Fig-3



June 26, 1956 G. W. MITCHELL 2,752,273

METHOD OF STRIPPING CLEARER ROLLS

Filed Oct. 13, 1955 6 Sheets-Sheet 3

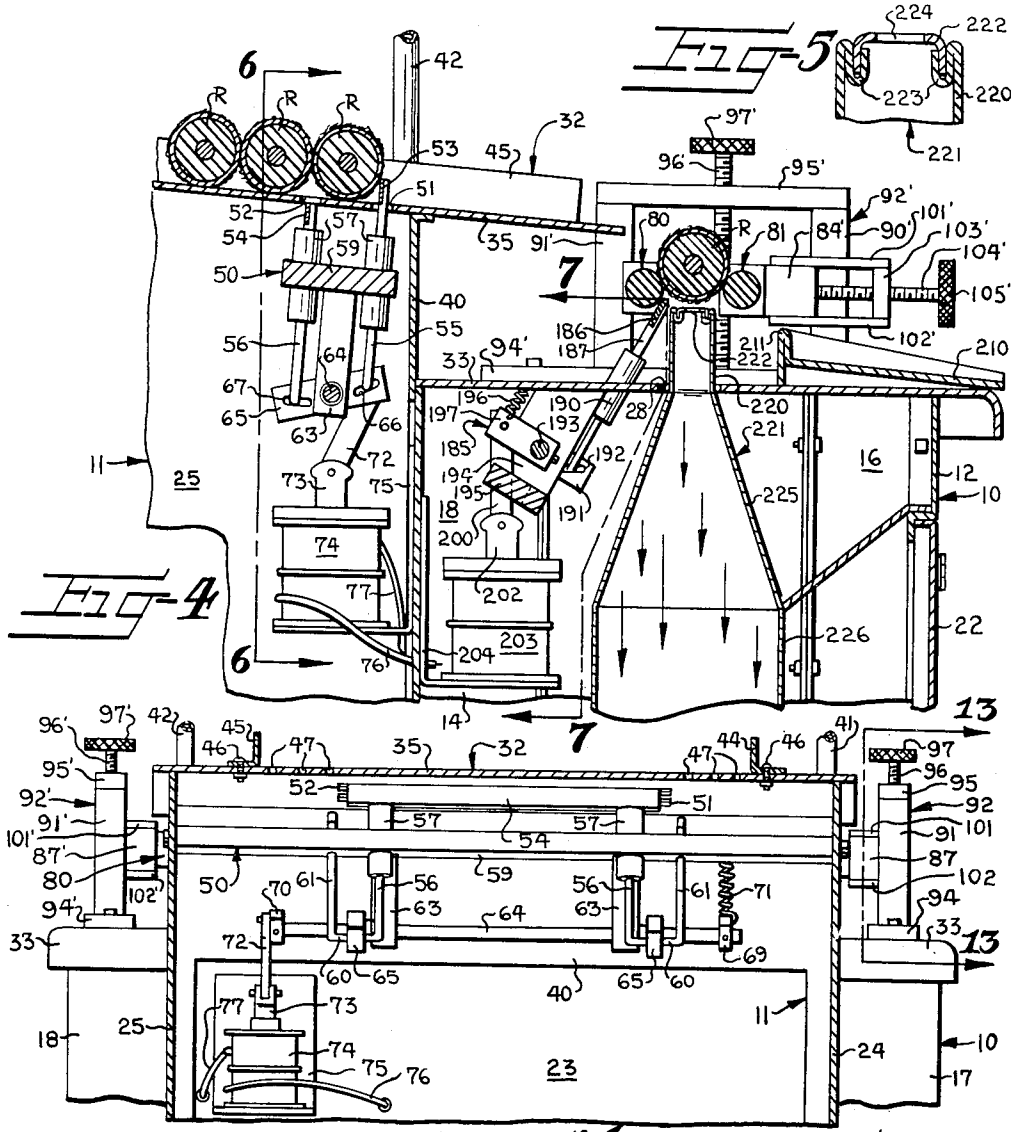


Fig-4

Fig-5

Fig-6

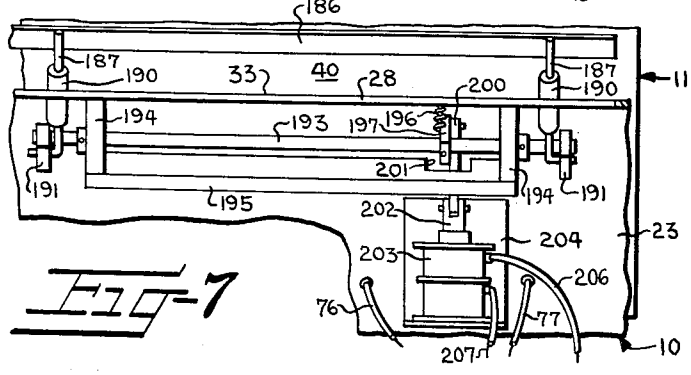


Fig-7

GEORGE W. MITCHELL,
INVENTOR.

BY Eaton & Bell
ATTORNEYS

June 26, 1956 G. W. MITCHELL 2,752,273

METHOD OF STRIPPING CLEARER ROLLS

Filed Oct. 13, 1955 6 Sheets-Sheet 4

Fig-8

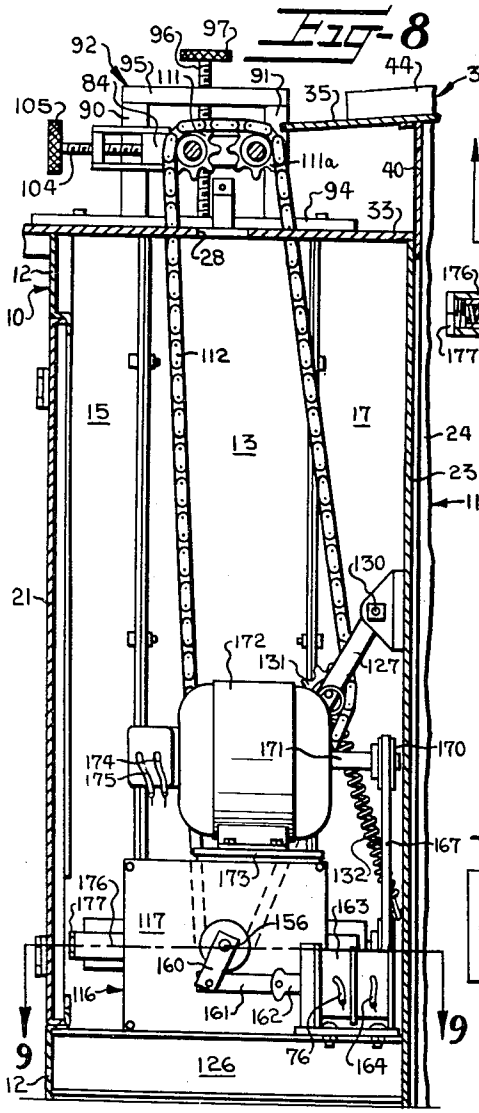


Fig-9

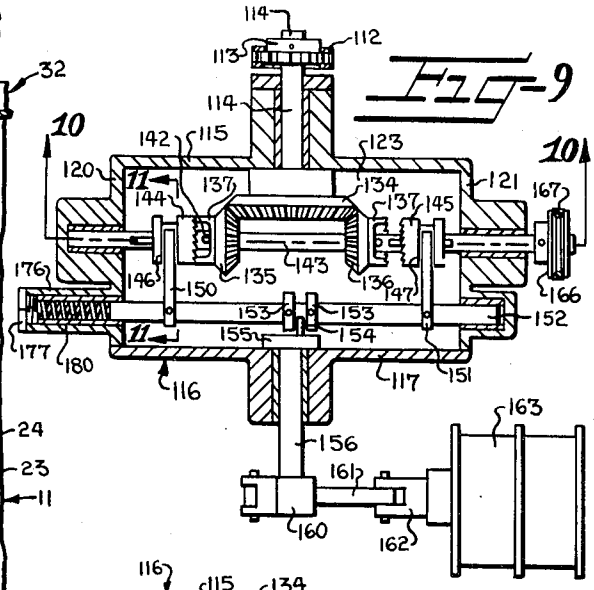


Fig-10

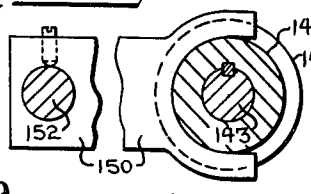


Fig-11

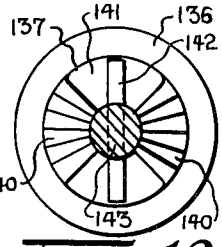


Fig-12

Fig-13

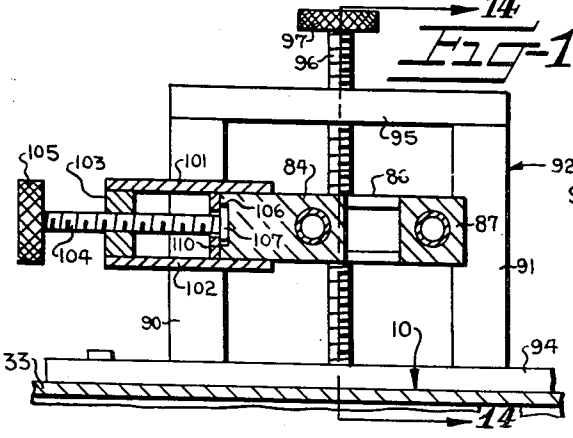
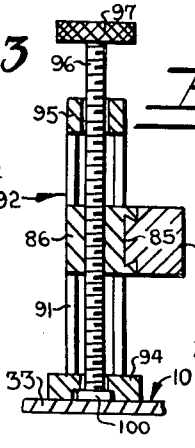


Fig-14



GEORGE W. MITCHELL, INVENTOR.

BY Eaton & Bell

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June 26, 1956 G. W. MITCHELL 2,752,273

METHOD OF STRIPPING CLEARER ROLLS

Filed Oct. 13, 1955 6 Sheets-Sheet 5

Fig-15

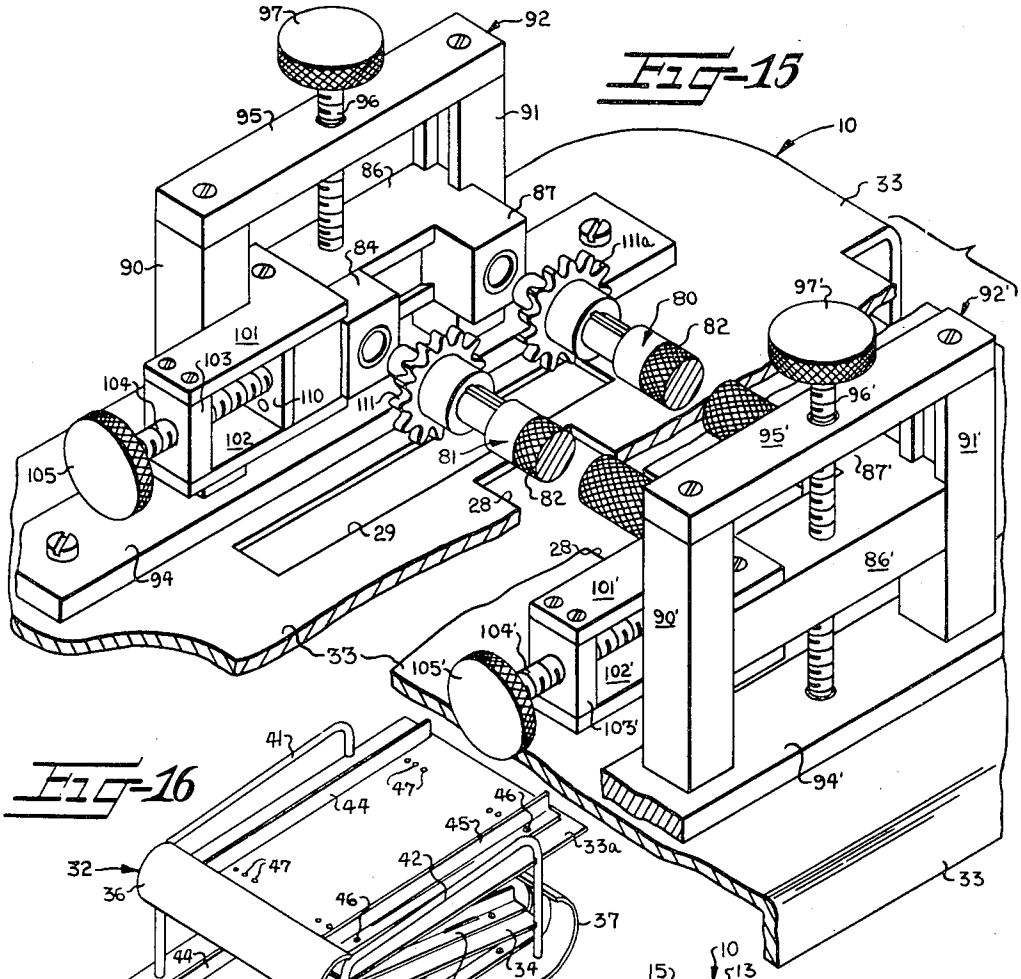


Fig-16

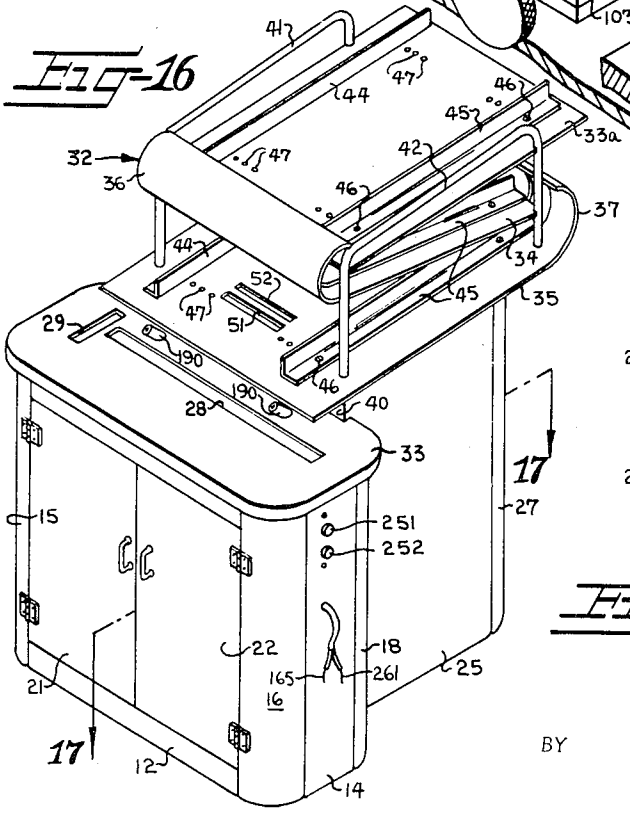
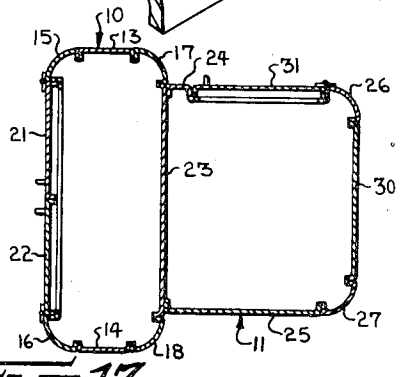


Fig-17



INVENTOR:
GEORGE W. MITCHELL.

BY Eaton & Bell

ATTORNEYS

June 26, 1956 G. W. MITCHELL 2,752,273

METHOD OF STRIPPING CLEARER ROLLS

Filed Oct. 13, 1955 6 Sheets-Sheet 6

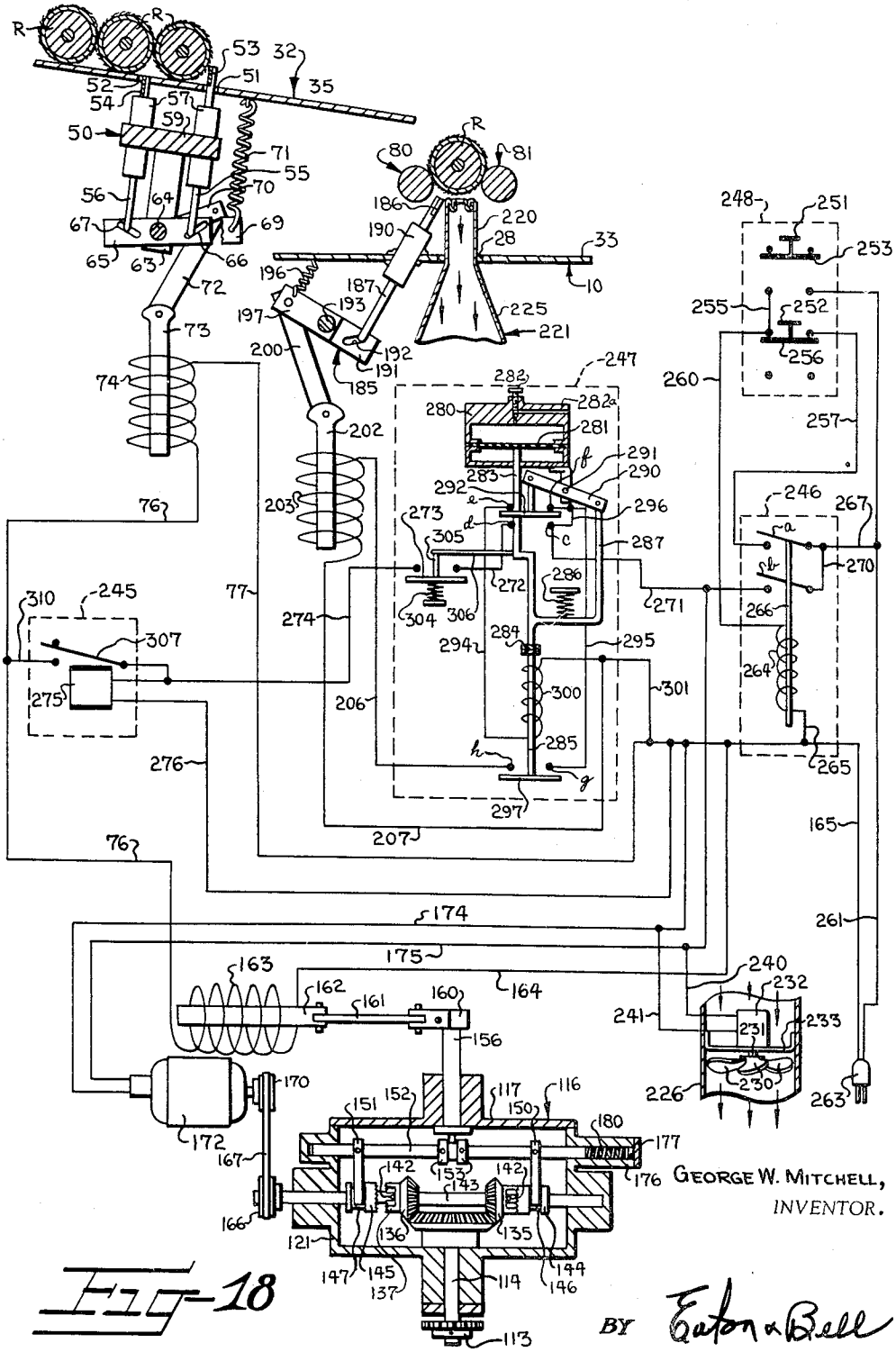


Fig-18

GEORGE W. MITCHELL,
INVENTOR.

BY Eaton & Bell

ATTORNEYS

United States Patent Office

2,752,273

Patented June 26, 1956

2,752,273

METHOD OF STRIPPING CLEARER ROLLS

George W. Mitchell, Lockhart, S. C.

Original application January 14, 1953, Serial No. 331,253. Divided and this application October 13, 1955, Serial No. 540,273

7 Claims. (Cl. 134—21)

This invention relates to an improved method for stripping accumulations of textile fibers, strand material and the like from clearer rolls, bobbins and the like.

This application is a division of my copending application, Serial Number 331,253, filed January 14, 1953, and entitled "Clearer Roll Stripping Apparatus."

As is well known to those familiar with the art, many textile machines, such as spinning frames, twisters, drawing frames and the like are provided with removable clearer rolls which usually engage the drawing rolls or feed rolls of such machines. The clearer rolls are usually provided with a fibrous covering or a plurality of closely spaced cots or bosses of relatively soft material to which fragments of yarn and excess textile fibers adhere in a random manner; that is, some fibers may be parallel to others, some may be at various angles, some may be loose and others may be clinging tightly to the clearer rolls.

More recently, the cots or bosses of clearer rolls have been made from a relatively soft or a resilient coating, such as plush adhesively applied thereto.

Heretofore, one method of removing the residual or waste random textile fibers and strand material from such clearer rolls has involved the employment of a knife or a similar instrument manually wielded by a skilled operator whereby the residual body was severed to facilitate its removal from the clearer rolls or the bosses or cots thereof.

While this method has been relatively satisfactory in some instances, it has not only been slow and hence expensive from the point of view of labor cost, but due to the soft texture of the cots or bosses, which have more recently been formed from a sponge or foam rubber, it has been practically impossible to sever the residual body carried by such cots without injury to the surface of the cots and, as a matter of fact, the sponge or foam rubber is so soft as to be unwieldy, thereby further extending the time required to remove the residual or waste textile fibers from the clearer rolls.

It is therefore an object of this invention to provide an improved method of removing or stripping accumulations of textile fibers, strand material and the like from clearer rolls which includes feeding clearer rolls, one at a time, onto and between a pair of stripper rolls, creating suction currents adjacent the periphery of each successive clearer roll so positioned while rotating the stripper rolls to drive the corresponding clearer roll first in one direction for substantially parallelizing or smoothing out the fibers thereon and then reversing the direction of rotation of the stripper rolls to thereby impart rotation to the clearer roll in the opposite direction for a predetermined period of time, whereby the fibers are drawn off the clearer roll by the suction currents. Thereafter, the clearer roll from which the fibers have been removed is ejected from upon and between the stripper rolls and a succeeding stripper roll is then fed onto and between the stripper rolls.

Some of the objects of the invention having been stated, other objects will appear as the description proceeds,

when taken in connection with the accompanying drawings, in which—

Figure 1 is a top plan view of a preferred form of clearer roll stripping apparatus for carrying out the steps of the improved method;

Figure 1–A is an enlarged fragmentary plan view similar to the right-hand portion of Figure 1, omitting the stripper rolls and supports therefor, and showing the nozzle of the suction device;

Figure 2 is a side elevation of the roll stripping apparatus looking up at the lower side of Figure 1;

Figure 3 is an enlarged front elevation of the clearer roll stripping apparatus looking at the right-hand side of Figure 2 with parts broken away to show the mechanism disposed within the lower front portion of the cabinet;

Figure 4 is a fragmentary vertical sectional view taken substantially along line 4—4 in Figure 3 and showing the manner in which clearer rolls in the magazine are restrained from moving off the end of the inclined chute comprising said magazine while another clearer roll is being operated upon by the stripper mechanism;

Figure 5 is an enlarged fragmentary vertical sectional view of the upper end or nozzle of the suction device shown in the upper right-hand portion of Figure 4;

Figure 6 is a detail, with parts in section, taken substantially along line 6—6 in Figure 4, but omitting the clearer rolls;

Figure 7 is a fragmentary vertical sectional view taken substantially along line 7—7 in Figure 4;

Figure 8 is a detail of the means for driving the stripper rolls, showing portions of the cabinet in cross-section and being taken substantially along line 8—8 in Figure 3;

Figure 9 is a somewhat schematic enlarged fragmentary sectional plan view taken substantially along line 9—9 in Figure 8, but omitting the cabinet and showing the means for controlling the direction of rotation of the stripper rolls;

Figure 10 is a fragmentary vertical sectional view taken substantially along line 10—10 in Figure 9;

Figure 11 is an enlarged fragmentary vertical sectional view taken along line 11—11 in Figure 9;

Figure 12 is an enlarged fragmentary vertical sectional view, mostly in elevation, taken substantially along line 12—12 in Figure 10;

Figure 13 is an enlarged fragmentary vertical sectional view showing the manner in which corresponding ends of the stripper rolls are rotatably supported, partly in elevation, and being taken substantially along line 13—13 in Figure 6;

Figure 14 is a fragmentary sectional view taken substantially along line 14—14 in Figure 13;

Figure 15 is an enlarged partially exploded isometric view, with parts broken away and in cross-section, showing the manner in which the stripper rolls are supported and looking in the general direction of the arrow 15 in Figure 1;

Figure 16 is an isometric view of the cabinet of the apparatus with the magazine thereon, but omitting the stripper roll supports or stands and the stripper rolls for purposes of clarity, and showing the front and top of the cabinet and the opposite side of the cabinet from that shown in Figure 2;

Figure 17 is a sectional plan view of the cabinet of the apparatus taken substantially along line 17—17 in Figure 16 and omitting all of the parts disposed within the cabinet for purposes of clarity;

Figure 18 is a diagram of the electrical circuit for the roll stripping apparatus wherein the associated mechanical parts are shown schematically.

Referring more specifically to the drawings, a preferred embodiment of an improved machine for carrying out the improved method of removing residual fibers, waste

and the like from clearer rolls is illustrated. The machine includes a cabinet and magazine construction, a magazine roll transfer mechanism, a stripping mechanism, means for driving the stripper rolls, a clearer roll ejector mechanism, a suction or vacuum cleaning device and an electrical circuit for controlling operation of the various movable elements of the machine in proper timed relationship. The machine will now be described in detail.

Cabinet and magazine construction

The cabinet is formed in two sections; namely, a front section broadly designated at **10** and a rear section broadly designated at **11** (Figure 17). The sections **10** and **11** of the cabinet are preferably made of a thin sheet material, such as sheet metal and the front section comprises a front wall **12**, side walls **13** and **14** and curved corner portions **15**, **16**, **17** and **18**. The proximal edges of the corner portions **15** and **17** are suitably secured to the distal edges of the side wall **13** and the proximal edges of the corner portions **16** and **18** are suitably secured to the distal edges of the side wall **14**. The proximal edges of the corner portions **15** and **16** also serve as jambs for respective doors **21** and **22** hingedly connected to the corner portions **15** and **16**.

The proximal edges of the corner portions **17** and **18** are suitably secured to the distal side edges of a dividing panel, partition or wall **23** to which the front edges of side walls **24** and **25** of the rear section **11** of the cabinet are suitably secured. The rear edges of the side walls **24** and **25** are suitably secured to respective curved corner portions **26** and **27** whose proximal edges are suitably secured to the distal side edges of a rear panel or wall **30**. The rear corner member or portion **26** of the rear cabinet section **11** also serves as a jamb for a suitable door **31** hingedly connected to the corner member **26**.

It will be observed in Figures 2 and 16 that the side walls **24** and **25** of the rear cabinet section **11** extend upwardly beyond the level of the upper edges of the vertical walls of the front cabinet section **10** and support a magazine broadly designated at **32**, which will be presently described in detail. A flanged top wall or cover **33** is suitably secured to, and extends outwardly beyond, the upper edges of the side walls **13** and **14**, front wall **12** and corner portions or members **15** to **18**, inclusive, of the front cabinet section **10**.

The top wall or cover **33** is substantially rectangular in plan with arcuate corners and has an elongated slot **28** therein (Figure 16) which extends transversely of the general longitudinal axis of the machine. The top wall **33** also has a relatively short forwardly and rearwardly extending slot **29** therein disposed adjacent one end of the transverse slot **28**.

Generally, the magazine **32** comprises a plurality of superposed inclined chutes or platforms and means for directing the clearer rolls, bobbins or the like successively from the uppermost of the inclined platforms or chutes into the lowermost inclined platform or chute. In this instance, there are three superposed inclined platforms or chutes shown in Figures 2, 3 and 16; namely, an upper platform or chute **33***a*, and intermediate platform or chute **34** and a lower or bottom platform or chute **35**.

The front and rear ends of the respective chutes **34** and **35** each has respective substantially semicircular portions **36** and **37** thereon. The portion **36** curves upwardly and then rearwardly in spaced overlapping relation to the front lower edge of the forwardly and downwardly inclined upper chute **33***a*. Of course, the curved portion **37** of the forwardly and downwardly inclined bottom chute **35** curves upwardly in spaced parallel relation to the rear edge of the intermediate rearwardly and downwardly inclined chute **34** and the upper edge of the curved portion **37** of the bottom chute **35** is disposed in spaced overlapping relation to the rear edge of the intermediate chute **34**.

The lowermost or bottom chute **35** is of substantially greater width than the upper and intermediate chutes **33***a* and **34**, respectively, and overhangs the walls of the rear cabinet section **11** and is suitably secured to the upper edges of the side walls **24** and **25**, the rear wall **30** and a front wall portion **40** (Figure 4) of the rear cabinet section **11**. Opposite side edges of the upper and intermediate platforms or chutes **33***a* and **34** of the magazine **32** and the arcuate portions **36** and **37** of the intermediate and bottom platforms or chutes **34** and **35** are suitably supported as by inverted substantially U-shaped frame members **41** and **42** suitably secured to the bottom platform or chute **35**.

In order to maintain the clearer rolls or the like, indicated at R (Figures 4 and 18), in proper alignment with the stripper mechanism, to be later described, each of the inclined chutes or platforms has a pair of laterally spaced forwardly extending guide bars **44** and **45** suitably adjustably secured to the upper surface thereof as by screws **46**. Each of the platforms or chutes **33***a*, **34** and **35** has a plurality of holes **47** therein in transverse alinement with each of the screws or bolts **46** to facilitate adjustment of the guide bars **44** and **45** to vary the distance therebetween according to the length of the rolls R.

Magazine roll transfer mechanism

It is evident that the rolls R are placed upon the uppermost or top chute or platform **33***a*, between the corresponding guide bars **44** and **45**, and roll, by gravity, along the chute **33***a* and are directed onto the chute **34** by its arcuate portion **36**, from whence they roll, by gravity, along the intermediate chute **34** and are directed onto the bottom chute **35** by its curved portion **37**.

In order to arrest the leading roll R, a magazine roll transfer mechanism, broadly designated at **50**, is provided (Figures 3, 4, 6, 7 and 18). The bottom platform or chute **35** has a pair of forwardly and rearwardly spaced parallel transverse slots **51** and **52** therein through which respective roll arresting bars **53** and **54** alternately pass. These roll arresting bars **53** and **54** may also be termed as roll releasing or transfer bars.

The roll arresting and releasing bars **53** and **54** are preferably spaced from each other a distance substantially equal to the diameter of each of the rolls R, although this is not absolutely necessary and the distance may substantially vary. Each of the arresting bars **53** and **54** is suitably secured to the upper ends of respective pairs of transversely spaced arresting bar supports or rods **55** and **56** (Figures 4, 6 and 18), each of which is mounted for vertical sliding movement in a substantially vertical guide block **57**. The guide blocks **57** are carried by a transverse frame member **59** which spans the distance between, and is suitably secured to, the proximal surfaces of the side walls **24** and **25** of the rear cabinet section **11**.

Each of the arresting bar supports or rods **55** and **56** is substantially U-shaped (Figure 6) thereby forming a horizontal or lateral portion **60** and an upwardly projecting outer portion **61** on each of the rods **55** and **56**. The upwardly projecting portions **61** are also mounted for vertical sliding movement in the transverse frame member **59**. A bearing block **63** is disposed between each adjacent pair of the guide members **57** and depends from the transverse frame member **59**. The lower ends of the bearing blocks **63** have a rocker shaft **64** oscillatably mounted therein on which rocker arms or cranks **65** are fixedly mounted intermediate the ends thereof.

Each of the rocker arms or cranks **65** has a pair of upwardly and outwardly diverging spaced slots **66** and **67** therein (Figures 4 and 18) through which the portions **60** of the respective arresting bar supports **55** and **56** extend. Opposite ends of the rocker shaft **64** have crank arms **69** and **70** fixed thereon. The free end of the crank arm **69** has the lower end of tension spring **71** connected thereto (Figures 6 and 18) whose upper end is suitably connected to the transverse frame member **59** and which, therefore, normally urges shaft **64** and its rocker arms **65**

in a counterclockwise direction in Figures 4 and 18 and, thus, normally urges the front or lowermost arresting bar 53 to raised or operative position shown in Figures 4, 6 and 18. Thus, the arresting bar 53 normally prevents the rolls R from passing off of the front end of the bottom chute or platform 35.

Since the rear arresting bar supports 56 are of substantially the same length as the front arresting bar supports 55, it is evident that the spring 71 also normally urges the rear arresting bar 54 to a lowered or inoperative position, below the level of the upper surface of the bottom platform or chute 35, as shown in Figure 4.

It will be observed, in the left-hand portion of Figure 6, that the free end of the crank arm 70 has the upper end of a link 72 pivotally connected thereto which extends downwardly and is pivotally connected to the upper end of a solenoid plunger 73 whose lower portion is disposed within a solenoid coil 74 suitably secured to an angle clip or bracket 75. The angle clip or bracket 75 is suitably secured to the rear surface of the partition 23 and has wires or conductors 76 and 77 connected to opposite ends thereof (Figures 4, 6 and 18). The solenoid coil 74 and wires 76 and 77 are parts of the electrical circuit to be later described.

Stripping mechanism

Upon energization of the solenoid coil 74, the rocker shaft 64 is moved in a clockwise direction in Figures 4 and 18 to lower the front arresting bar 53 to inoperative position as the rear arresting bar 54 is raised to operative position and to thereby release the leading roll R which was previously engaged by the front arresting bar 53 and to also prevent the rolls in back of the leading roll R from moving down the inclined bottom chute 35. The leading roll R then rolls down the inclined chute 35 and is thereby transferred onto a pair of closely spaced parallel stripper rolls 80 and 81 of the stripper mechanism.

The rolls 80 and 81 extend transversely of the machine and are spaced horizontally to form an opening therebetween wherein the distance between the stripper rolls 80 and 81 is slightly less than the diameter of the rolls R. Of course, a single stripper roll could be used instead of the two rolls 80 and 81, although it would probably be necessary to provide other guide means for maintaining the clearer rolls in contact with a single stripper roll. One form of other guide means may include curved guide bars extending from the chute 35 to the stripper roll. As a matter of fact, either of the stripper rolls 80 or 81 may be considered broadly as means to maintain each successive clearer roll R in engagement with the other of said stripper rolls. At the time that each successive roll is advanced to the stripper rolls 80 and 81, the stripper rolls 80 and 81 are being driven in a clockwise direction in Figures 4 and 18. Thus, each successive roll R falls off the free front edge of the bottom inclined platform or chute 35 and its momentum, combined with the direction of rotation of the rear stripper roll 80, causes the roll R to be acted upon to be positioned between, and in engagement with the proximal portions of, the stripper rolls 80 and 81 as shown in the right-hand portion of Figure 4.

In order to assist in establishing frictional contact between the roll R, as it is being cleaned, and the stripper rolls 80 and 81, the peripheral surfaces of the rolls 80 and 81 are roughened or knurled, as at 82 (Figures 3 and 15), which also assists in parallelizing or flattening the random fibers or strands which may have been previously collected on the rolls or bobbins R.

Due to the fact that the spacing between the stripper rolls 80 and 81 must be adjusted according to the variations in diameters of different clearer rolls and the like, opposite ends of the front stripper roll 81 are journaled in forwardly and rearwardly adjustable bearing blocks 84 and 84' (Figures 15 and 4, respectively) each of which has a dove-tailed portion 85 on the outer surface thereof which slidably fits in a mating dove-tailed groove in each of a pair of vertically adjustable guide blocks 86 and 86' (Figures 13, 14 and 15). The rear portions of the vertically adjusted guide blocks 86 and 86' have respective inwardly projecting bearing portions 87 and 87' thereon in which opposite ends of the rear stripper roll 80 are suitably journaled.

Since the means for supporting the ends of the stripper rolls 80 and 81 are identical at both sides of the machine, except opposite hand, only the parts associated with the bearing block 84 and the guide block 86 will be further described and those parts associated with the bearing block 84' and the guide block 86' will bear the same reference characters with the prime notation added.

The front and rear ends of the guide block 86 are mounted for vertical sliding movement in the proximal sides of respective front and rear upright portions 90 and 91 (Figures 13, 14 and 15) of a roll stand broadly designated at 92. The lower ends of the upright members 90 and 91 are suitably secured to a bottom member or plate 94 and the upper ends of the upright members 90 and 91 have opposite ends of an upper roll stand member 95 suitably secured thereto. The roll stand 92 is suitably secured to the upper surface of the top wall 33 of the front cabinet section 10 adjacent the outer wall of the slot 29 (Figure 15) and the roll stand 92' is suitably secured to the top wall or cover 33 of the front cabinet section 10 adjacent the end of the transverse slot 28 remote from the slot 29 and the roll stand 92.

The upper roll stand member 95 is slidably or loosely penetrated by a threaded shaft 96 having a knurled knob or other suitable handle 97 fixed to its upper end. The threaded shaft 96 is disposed substantially centrally of the upper roll stand bar 95 and also threadably penetrates the medial portion of the guide block 86. The lower end of the threaded shaft 96 loosely or slidably penetrates bottom bar 94 of the roll stand 92 and has an enlarged portion or collar 100 (Figure 14) fixed on the lower end thereof which slidably and rotatably engages the upper surface of the top wall 33 of the front cabinet section 10.

The enlarged portion or collar 100 on the lower end of the threaded shaft 96 is also rotatably mounted in the lower portion of the plate or bar 94 and, thus, prevents upward and downward movement of the shaft 96. Thus, by rotating the shaft 96, the bearing blocks 84 and 87 may be vertically adjusted, in unison, to vary the distance between the stripper rolls 80 and 81 and the upper surface of the top wall 33 of the front cabinet section 10.

The front portions of the upper and lower surfaces of the guide block 86 have respective upper and lower substantially L-shaped plates 101 and 102 suitably secured thereto (Figures 13 and 15) which extend inwardly toward the center of the machine and then forwardly beyond the front upright member 90 of the roll stand 92 and are held in proper spaced relation to each other by a spacing block or nut 103. The spacing block 103 is threadably penetrated by a threaded horizontal adjustment shaft 104 having a suitable handle 105 on the front end thereof which is shown in the form of a knurled knob.

The bearing block 84 is also slidably mounted between the rear portions of the upper and lower plates 101 and 102 and has a cavity 106 in the front end thereof (Figure 13) in which an enlarged portion or collar 107 on the rear end of the shaft 104 is positioned. The cavity 106 is partially closed by a plate 110 suitably secured to the front end of the bearing block 84 and which is slidably or loosely penetrated by the threaded shaft 104.

Thus, manual rotation of the adjustment screw 104 will cause either forward or rearward movement to be imparted to the front bearing block 84 relative to the guide block 86 and its bearing block portion 87. It is thus seen that the stripper rolls 80 and 81 may be adjusted upwardly and downwardly in unison by rotative movement of the vertical adjustment screws 96 and 96' and the distance between the stripper rolls 80 and 81 may be

varied by rotative movement of the horizontal adjustment screws **104** and **104'**.

Driving means for stripper rolls

It will be observed in Figures 8 and 15 that reduced corresponding ends of the stripper rolls **81** and **80** have respective sprocket wheels or pulleys **111** and **111a** fixed thereon which are engaged by a common sprocket chain or endless belt **112**. The lower portion of the sprocket chain **112** engages a sprocket wheel or pulley **113** (Figures 3 and 9) fixed on one end of a shaft **114** rotatably mounted in one side wall **115** of a combination transmission gear and clutch housing broadly designated at **116**. The housing **116** also comprises a side wall **117**, front and rear end walls **120** and **121** and top and bottom walls **122** and **123**.

The housing **116** rests upon, and is suitably secured to, a transverse plate **124** (Figure 3) which spans the distance between, and is suitably secured to, a pair of forwardly and rearwardly extending frame members or channel bars **125** and **126**. The front ends of the channel bars **125** and **126** are suitably secured to the inner surface of the front wall **12** of the front cabinet section **10** and the rear ends of the channel bars **125** and **126** are suitably secured to the partition **23**.

The endless belt or sprocket chain **112** is maintained taut by a suitably take-up mechanism in the form of an arm **127** which is pivotally supported, as at **130**, on the partition **23** (Figures 3 and 8) and has a sprocket wheel or pulley **131** rotatably mounted on the free end thereof and engaging the endless belt or sprocket chain **112**. One end of a tension spring **132** is connected to the arm **127** and the other end thereof is suitably connected to the wall or partition **23**.

The inner end of the shaft **114** has a relatively large bevel gear **134** fixed thereon which meshes with a pair of diametrically opposed relatively small transmission bevel gears **135** and **136**, the hub of each of which is shown in the form of a clutch member **137** (Figures 9, 10 and 12). It will be observed in Figure 12 that each of the clutch members **137** has a pair of substantially diametrically opposed toothed segments **140** thereon between which segmental cavities **141** are formed thereby and in which cavities opposite ends of a locking pin **142** are disposed. The locking pin is suitably secured to a drive shaft **143** on which the bevel gears **135** and **136** are mounted.

The clutch members **137** associated with the gears **135** and **136** are adapted to be alternately engaged by respective mating clutch members **144** and **145** suitably keyed for axial sliding movement on the shaft **143**, but which are caused to rotate with the shaft **143**. The axially movable or reciprocable clutch members **144** and **145** have respective peripheral grooves **146** and **147** therein in which the forked ends of respective yoke members **150** and **151** are disposed. The yoke members **150** and **151** extend radially from the respective clutch members **144** and **145** and are fixed on an axially reciprocable shifting shaft **152** mounted for longitudinal sliding movement at opposite ends thereof in the end walls **120** and **121** of the housing **116**.

The shaft **152** has a pair of closely spaced collars **153** fixed thereon between which a shifting pin **154** is disposed. The shifting pin **154** is eccentrically mounted on, and projects inwardly from, a disk or lever **155** fixed on the inner end of a shaft **156**. The shaft **156** is oscillatably mounted in the wall **117** of the housing **116** and the outer end thereof has a crank arm **160** fixed thereon to which one end of a link **161** is pivotally connected (Figures 8 and 9).

The other end of the link **161** is pivotally connected to a solenoid plunger **162** surrounded by a solenoid coil **163**. It will be observed in Figure 18 that the wire or conductor **76** remote from the solenoid coil **74** is connected to one end of the solenoid coil **163** and the other end of the solenoid coil **163** has a wire or conductor **164** connected thereto which extends to a lead wire or conductor **165**.

Referring again to Figures 3, 8, 9 and 10, it will be observed that the shaft **143** is rotatably mounted in the end walls **120** and **121** of the housing **116** and one end of the shaft **143** extends outwardly through the end wall **121** and has a pulley **166** fixed thereon which is engaged by an endless belt **167**. The endless belt **167** extends upwardly (Figure 8) and is also mounted on a pulley **170** fixed on a motor shaft **171** extending from an electric motor **172**. The electric motor **172** is suitably secured to a motor support plate **173** carried by the upper wall **122** of the housing **116** (Figure 3). The motor **172** has wires or conductors **174** and **175** extending therefrom. The wire **174** is connected to lead wire **165** and wire **175** is connected to a magnetic starter to be later described.

It will be observed in Figures 9 and 18 that one end of the shifting shaft **153** is disposed within a tubular portion **176** whose outer end is closed by a threaded closure member **177**. Disposed within the tubular portion **176** is a compression spring **180** which bears against the corresponding end of the shifting shaft **153** and, thus, normally urges the same from left to right in Figure 9 or from right to left in Figure 18.

It is thus seen that the clutch member **144** is normally urged into engagement with the clutch member **137** of bevel gear **135** for transmitting rotation thereto while the clutch member **145** is normally out of engagement relative to the clutch member **137** associated with gear **136**. Thus, since the shaft **143** is driven by the electric motor **172**, the bevel gear **135** imparts rotation to the bevel gear **134** to impart rotation to the stripper rolls **80** and **81** in a counterclockwise direction in Figures 4 and 18.

Upon energization of the solenoid coil **163**, the shaft **156** is rotated a partial revolution whereby the pin **154** causes the shifting rod or shaft **152** to move from right to left in Figure 9 and to thereby move the movable clutch member **145** into engagement with the clutch member **137** on gear **136**, as the other movable clutch member **144** moves out of engagement with the clutch member **137** on gear **135**.

The arcuate or segmental cavities **141** in each of the clutch members **137** are provided to permit the corresponding clutch members **137** to rotate a partial revolution independently of the shaft **143** before effecting rotation to the shaft **143**. This insures that the teeth on the proximal surfaces of the mating clutch members are in proper engagement before they are placed under a load. It is evident that, upon the movable clutch member **145** being moved into operative position relative to the clutch member **137** of the gear **136**, the stripper rolls **80** and **81** will then rotate in a clockwise direction in Figures 4 and 18.

Roll ejector mechanism

The means for controlling the transfer mechanism **50** and the direction of rotation of the stripper rolls **80** and **81** and the ejector mechanism will be later described. However, it might be stated that, in operation, as each successive roll R is directed onto the stripper rolls **80** and **81**, the stripper rolls are then rotating in a clockwise direction in Figures 4 and 18 and continue this rotation for a period of, say, 30 seconds, during which time the fibers or other loose matter on the corresponding roll R are substantially parallelized and matted against the periphery of the roll R.

The direction of rotation of the rolls **80** and **81** is then reversed, during which time they rotate in a counterclockwise direction in Figure 4 for a period of, say, fifteen seconds and during which the suction means causes the matted fibers to be withdrawn from the roll R disposed upon and between the stripper rolls **80** and **81** in the form of a web. Thereafter, the direction of rotation of the stripper rolls **80** and **81** is again reversed so they rotate in their original or clockwise direction and, at which time, the ejector mechanism operates to eject the roll R

from between the stripper rolls **80** and **81** while, substantially simultaneously, the transfer mechanism **50** again operates to release a succeeding roll R to be cleaned.

The ejector mechanism, broadly designated at **185**, is most clearly illustrated in Figures 4, 7 and 18 and comprises a horizontally disposed substantially vertically reciprocable ejector bar **186**. The ejector bar of the ejector mechanism **185** is disposed between the lower portions of the stripper rolls **80** and **81** and in closer proximity to the rear stripper roll **80** than it is to the front stripper roll **81**. The ejector bar **186** is also spaced closely beneath and to one side of the vertical axis of the particular roll R which is being operated upon by the stripper rolls **80** and **81** as shown in Figure 4.

The ejector bar **186** is fixed to the upper ends of a pair of transversely spaced ejector bar supports or rods **187** which extend downwardly and rearwardly at an angle and are mounted for longitudinal sliding movement in corresponding guide blocks **190**. The guide blocks **190** extend through the top wall or cover **33** of the front cabinet section **10** and are suitably secured thereto as by welding.

The lower ends of the ejector bar supports **187** are pivotally connected to corresponding ends of rocker arms **191**. It will be noted that the lower ends of the ejector bar supports **187** are connected to the rocker arms **191** by being bent at right angles at the lower ends thereof and each of the rocker arms **191** has an angularly disposed slot **192** in one end thereof for reception of the right-angularly bent portion of the corresponding ejector bar support **187** (Figures 4 and 18). The slot **192** merely facilitates relative movement between the lower ends of the ejector bar supports **187** and the rocker arms **191**, since the ejector bar supports **187** move in a straight line while the rocker arms **191** move in an arcuate path. The rocker arms are fixed, at the ends thereof remote from the rods **187**, on opposite ends of a rocker shaft **193**. The rocker shaft **193** is journaled in a pair of bearing blocks **194** whose upper ends are fixed to the lower surface of the top wall **33** of the front cabinet section **10**. The lower ends of the bearing blocks **194** are spanned by a bar or frame member **195**, suitably secured to the bearing blocks **194**.

The ejector bar **186** is normally urged to a lowered or inoperative position, as shown in Figure 4, by a tension spring **196**, the upper end of which is suitably connected to the top wall **33** of the front cabinet section **10** and the lower end of which is connected to the free end of a crank arm **197** fixed on a medial portion of the rocker shaft **193**. The free end of the crank arm **197** also has the upper end of a link **200** pivotally connected thereto which extends downwardly through a slot or notch **201** (Figure 7) formed in the bar **195** and is pivotally connected to the upper end of a solenoid plunger **202**.

The solenoid plunger **202** is surrounded by a solenoid coil **203** suitably insulatably secured to an angle bracket or angle clip **204**. The angle bracket **204** is suitably secured to the partition **23** disposed between the front and rear sections **10** and **11** of the cabinet. Wires or conductors **206** and **207** are connected to opposite ends of the solenoid coil **203** and extend to an electrical timing device to be later described.

It is evident that, upon energization of the solenoid coil **203**, the solenoid plunger **202** moves downwardly in Figures 4, 7 and 18 thereby causing the bar **186** of the ejector mechanism **185** to dart upwardly, striking the roll R disposed between the stripper rolls **80** and **81** and causing the same to be thrown upwardly and forwardly over the stripper roll **81** and whereupon the cleaned roll R will then fall upon a suitable discharge chute or tray **210** resting upon the front portion of the top wall **33** of the front cabinet section **10**. This tray or chute **210** may be constructed in any desired manner and is shown in Figures 1, 3 and 4 as being formed from a relatively thin material, such as sheet metal, and having an upwardly projecting lip **211** at the rear edge thereof to prevent the ejected rolls R from falling beneath the front stripper roll **81**. The bottom of the tray or discharge chute **210** is inclined forwardly and downwardly at a slight angle and its front edge terminates in substantially the same vertical plane as the front edge of the top wall **33** of the front cabinet section **10** so that a suitable truck, box or other container may be positioned adjacent the front wall **12** and doors **21** and **22** of the front cabinet section **10** and into which the cleaned rolls R will fall as they are ejected.

Suction or vacuum cleaning device

It will be observed in Figures 1, 1–A, 3, 4, 5 and 8 that a relatively narrow enclosed throat portion **220** of a suction or vacuum cleaning device, broadly designated at **221**, projects upwardly through the transverse slot **28** in the top wall or cover **33** of the front cabinet section **10**. This throat portion **220** of the suction device is preferably formed of sheet metal and is substantially rectangular in plan. The upper end of the throat **220** of the suction device **221** terminates in closely spaced relation beneath the roll R being operated upon by the stripper rolls **80** and **81** and has a nozzle member **222** removably mounted in the upper end thereof.

In this instance, the nozzle member **222** is shown in the form of an elongated channel-shaped or inverted U-shaped member formed from sheet material and the downturned flanges thereof fit in substantially U-shaped portions **223** (Figure 5) formed in opposite front and rear walls of the throat **220**. The web or horizontal portion of the channel-shaped nozzle **222** has a plurality of longitudinally extending spaced slots **224** therein which are disposed in close proximity to and beneath the roll R being operated upon by the stripper rolls **80** and **81**.

The slots **224** are preferably of the same length as, and disposed in alinement with, the usual bosses or cots on the clearer rolls R. It is evident that different nozzle members would be used for clearer rolls R having bosses of different lengths or which are spaced differently than others. Thus, the nozzle member **222** may be readily lifted out of the U-shaped portions **223** and another nozzle member substituted therefor, as desired. In the event that clearer rolls being cleaned have a continuous surface, that is, having no bosses, there would be only one continuous slot in the nozzle **222** instead of a plurality of slots **224**.

The throat **220** is connected to a downwardly extending body portion **225** whose front and rear walls flare outwardly or extend in diverging relation to each other and whose side walls converge downwardly and the walls of the body portion of the suction device **221** are connected to the upper end of a pipe or conduit **226**. The pipe **226**, which is also preferably made from sheet metal, extends downwardly through the floor on which the cabinet rests and may be connected to the conventional system usually employed in textile mills for carrying excess textile fibers and the like away from various parts of the mill.

If desired, the pipe **226** may terminate beneath the floor on which the cabinet rests and merely directs the residual fibers and strand material removed from the rolls R into the room beneath the room in which improved apparatus is disposed. In order to create suction at the nozzle **222**, a suitable suction means in the form of an electric blower or fan having blades **230** is disposed within the pipe **226**. In this instance, the blades **230** are fixed on a motor shaft **231** projecting downwardly from a motor **232** suitably secured to a transverse frame member or support **233** which spans the distance between, and is suitably secured to, diametrically opposed inner surfaces of the pipe **226**.

In order to permit access to the suction device comprising the blades **230**, the motor **232** and shaft **231**, the pipe **226** has an access opening **234** therein which is

adapted to be closed by a curved door or closure member 235 hingedly mounted on the pipe 226. In this instance, the door 235 has a vertical slot 236 adjacent the free edge thereof which registers with a turn knob 237 for locking the door 235 in closed position. The knob 237 is rotatably supported by the pipe 226 adjacent the right-hand side of the opening 234 in Figure 3. The electric motor 232 of the suction means has wires or conductors 240 and 241 extending therefrom which, as shown in Figure 18, are connected intermediate the ends of the respective wires 175 and 174.

Electrical circuit

It will be observed in Figure 3 that the front surface of the partition 23 also has a relay 245, a magnetic starter 246 and a time-delay-relay 247 suitably secured thereto. A suitable manual starter switch 248 is suitably secured to the inner surface of the side wall 14 and has respective "start" and "stop" push buttons 251 and 252 projecting outwardly therefrom which slidably penetrate the side wall 14 of the front cabinet section 10.

Now, referring to Figure 18, it will be observed that the elements 245 to 248, inclusive, are shown schematically in broken lines. The "start" push button 251 has a start switch bar 253 which normally occupies an open position and which, when manually depressed, is closed to complete a circuit between wires or conductors 255 and 261. On the other hand, the "stop" push button 252 has a switch bar 256 thereon which normally occupies a closed position to close a circuit between a wire or conductor 257 and a wire or conductor 260, to which the end of the wire 255 remote from the switch bar 253 is connected.

The end of the wire 261 remote from the stop switch 256 and the wire 165 are connected to a connector adapted to be connected to a suitable source of electrical energy, not shown. The end of the wire 260 remote from the manual starter switch 248 is connected to one side of a solenoid or magnetic coil 264, to the other end of which a wire or conductor 265 is connected, which wire 265 is connected intermediate the ends of the lead wire 165. Thus, upon an operator depressing the "start" push button 251, a circuit is completed to the solenoid or magnetic coil 264 and causes a plunger 266 of the magnetic starter 246 to move downwardly in Figure 18 and to thereby move a pair of switch bars *a* and *b* to closed position.

The switch *a* then maintains the circuit to the solenoid coil 264, since the start switch bar 253 immediately returns to open position upon the push button 251 being released by the operator. The circuit is then completed to the coil 264 by a wire or conductor 267 extending from the lead wire 261 to one side of the switch bar *a* and current flows through the switch bar *a*, through wire 257, switch bar 256 and wire 260 to the solenoid coil 264.

Of course, upon the operator depressing the "stop" push button 252, the circuit to the solenoid coil 264 is then broken to return the switch bars *a* and *b* to open position. The switch bar *b* is connected to the wire 267 by means of a conductor or wire 270 and, when closed, the switch bar *b* directs current to a wire or conductor 271 which enters the time-delay-relay mechanism 247 and is connected to a terminal or contact *c*. Disposed adjacent contact *c* is a mating contact or terminal *d* to which one end of a wire or conductor 272 is connected.

The other end of the wire or conductor 272 is connected to a terminal of a normally open delay switch 273. The other terminal of the delay switch 273 has a wire or conductor 274 connected thereto which extends into the relay housing 245 and is connected to one side of a relay coil 275. The other side of the relay coil 275 has one end of a conductor or wire 276 connected thereto whose other end is connected to the lead wire 165.

There are various types of time-delay-relay devices which may be employed in association with the present invention and, in this instance, a time-delay-relay mechanism of a type known as a Square D, class 9050, type RG9E, time-delay-relay mechanism may be employed. The time-delay-relay mechanism 247 includes a suitable housing 280 having a diaphragm 281 therein which is normally retarded as to its downward movement in Figure 18 by suitable valves, only one of which is shown in the form of a screw 282 which controls the rate at which air may be exhausted from within the housing 280 through a port 282*a*.

It is well known to those familiar with the art that the diaphragm 281 in this type of time-delay-relay mechanism can move upwardly instantaneously while its downward movement is delayed according to predetermined adjustment of the valve or valves 282. The medial portion of the diaphragm 281 has one end of a delay shaft 283 fixed thereto which extends downwardly in Figure 18 and has an insulation cap 284 on the lower end thereof which is normally biased into engagement with the insulated upper end of a solenoid plunger 285 by a compression spring 286.

The compression spring 286 engages a laterally extending portion of a substantially L-shaped arm 287 integral with the lower portion of the delay shaft 283. The upper end of the vertical leg of the L-shaped portion 287 of the delay shaft 283 has one end of a lever 290 pivotally connected thereto which is pivotally supported intermediate the ends thereof, as at 291, and has a second time-delay switch bar 292 pivotally connected thereto which is normally spaced immediately above the contacts or terminals *c* and *d*. The switch bar 292 normally engages a pair of contacts or terminals *e* and *f* which have the proximal ends of respective wires or conductors 294 and 295 connected thereto.

Terminal *c* is connected intermediate the ends of wire 295 by a wire or conductor 296 and the end of wire 295 remote from the terminal *f* is connected to a terminal or contact *g* normally spaced from a switch bar 297 fixed to the lower end of the solenoid plunger 285 in Figure 18.

A mating terminal or contact *h* is spaced from the terminal or contact *g* and has the end of the wire 296 remote from the solenoid coil 203 connected thereto. The end of wire 294 remote from terminal *e* is connected to one end of a solenoid coil 300 which surrounds the plunger 285 and to the other end of which a wire or conductor 301 is connected. The end of the wire 301 remote from the coil 300 is connected to the lead wire 165 and the end of the wire 207 remote from the solenoid coil 203 is connected intermediate the ends of the wire 301 or it may be connected directly to the lead wire 165, as desired.

The switch 273 is biased toward closed position by a compression spring 304 which normally urges a projection 305 on the switch 273 into engagement with an arm 306 projecting laterally from the delay shaft 283.

A switch bar 307 disposed adjacent the coil 275 of relay 245 normally assumes an open position, but when closed, the switch bar 307 closes a circuit between the wire 274 and a wire or conductor 310 connected intermediate the ends of the wire 76 which, as heretofore stated, is connected at opposite ends thereof to the solenoid coils 74 and 163. The wire 77 extending from the other end of coil 74 is connected to the lead wire 165. The end of wire 175 remote from the motor 172 is connected to wire 271 extending from the magnetic starter 246.

Method of operation

It has already been described how the rolls R, having random or indiscriminate waste fibers and the like thereon, are placed on the uppermost platform of the chute 33*a* and progress, by gravity, along the chutes 33*a*, 34 and 35 until the leading roll R engages the then operative front arresting bar 53 as shown in Figures 4 and 18. The "start" push button 251 is then depressed by the opera-

tor to energize the coil 264 of the magnetic starter 246, whereupon the switch bars *a* and *b* move to closed position. Upon initial energization of the coil 264 of the magnetic starter 246, the coil 300 of the time-delay-relay 247 is energized and the electric motors 172 and 232 are energized. Of course, the fan blades 230 then rotate to create suction at the openings 224 in the nozzle 222 of the suction device 221 and rotation is also imparted to the shaft 143 in the combination gear and clutch housing 116 (Figures 3, 9, 10, 12 and 18).

Upon energization of the coil 300 of the time-delay-relay mechanism 247, the plunger 285 moves upwardly in Figure 18 causing the switch bar 297 to engage the terminals *h* and *g* and, in so doing, the plunger 285 also moves the delay shaft 283 upwardly and, immediately after the switch bar 297 is moved to closed position, the switch 273 moves to closed position.

As the switch 273 moves to closed position, the terminals *g* and *h* are biased upwardly with continued movement of the delay shaft 283, thereby moving the arm 306 out of engagement with the projection 305 on the switch 273. Also, at the time the switch 273 moves to closed position the switch bar 292 moves out of engagement with the terminals *e* and *f* and engages and biases the terminals *c* and *d* downwardly slightly in Figure 18 to thereby break the circuit to the coil 300. Although the closing of the switch bar 287 and switch 273 overlap somewhat, this is of no consequence in the proper function of the apparatus. However, since the switch bar 297 moves to closed position prior to the switch 273, the flow of current effected by the movement of the switch bar 297 to closed position will be first described.

When the switch bar 297 is in closed position, current flows from the switch bar *b* in the magnetic starter 246, through the wires 271, 296 and 295, through switch bar 297 and wire 206 to the solenoid coil 203 associated with the ejector mechanism 185. Current continues through coil 203 and wires 207 and 301 to lead wire 165 thus completing the circuit to the solenoid coil 203. Although a roll R is not present, at this time, between the stripper rolls 80 and 81, energization of coil 203 causes the ejector bar 187 to dart upwardly and forwardly at an angle between the stripper rolls 80 and 81.

Since the switch bar 297 and solenoid plunger 287 are normally biased downwardly in Figure 18, immediately upon the switch bar 292 moving out of engagement with the terminals *e* and *f*, the circuit to the coil 300 will be broken and the switch bar 297 will return to open position to permit the ejector bar 186 of the ejector mechanism 185 to return the inoperative position shown in Figures 4 and 18.

Now, immediately following the upward movement of the ejector bar 186, the movement of the switch bar 292 in the time-delay-relay mechanism 247 into engagement with the terminals *c* and *d*, causes current to flow from the switch bar *b* in the magnetic starter 246, through the wire 271, switch bar 292, wire 272, switch 273 and wire 274 to the relay coil 275 in the relay 245. Current then flows through the coil 275 and wire 276 to the lead wire 165 thereby energizing the coil 275. This immediately causes the switch bar 307 to move to closed position, whereupon the circuit is completed simultaneously to both of the coils 74 and 163.

As heretofore stated, this causes the movable clutch member 145 to move into engagement with the clutch member 137 of the gear 136 as the movable clutch member 144 is moved out of engagement with the clutch member 137 of the gear 135 and which, in turn, causes the stripper rolls 80 and 81 to rotate in a clockwise direction in Figures 4 and 18.

Also, upon energization of the solenoid coil 74, the rocker arms or levers 65 move in a clockwise direction in Figures 4 and 18 thereby reversing the positions of the front and rear arresting bars 53 and 54 of the transfer mechanism 50. The leading roll R; that is, the roll R which was previously in engagement with the front arresting bar 53, is then released as the next succeeding roll R is maintained in its original position by the rear arresting bar 54.

It is evident that the leading roll R will then move, by gravity, along the bottom platform or chute 35 and will fall off the end thereof onto the stripper rolls 80 and 81 which, by that time, will have started rotating in a clockwise direction (Figures 4 and 18).

While the stripper rolls 80 and 81 are rotating in a clockwise direction in Figures 4 and 18, the rear arresting bar 54 remains in raised or operative position and the delay mechanism 247 is so adjusted that the stripper rolls 80 and 81 will then impart rotation to the corresponding roll R disposed therebetween for a period of, say, fifteen to thirty seconds, during the course of which the roll R being cleaned will rotate in a counter-clockwise direction to smooth out and substantially parallelize the residual fibers and strands thereon and to form them into a mat loosely adhering to the periphery of the roll R being cleaned. Of course, a few of the fibers will be dislodged during this initial rotating movement of the roll R being cleaned and these fibers will be drawn through the openings 224 in the nozzle member 222 and carried away through the pipe 226, due to the suction fan blades 230.

Now, the time-delay-relay mechanism is also so adjusted that, during the course of downward movement of the delay shaft 283, the arm 306 thereon will engage the projection 305 on switch 273, to move the switch 273 to open position while the switch bar 292 remains in engagement with the contacts or terminals *c* and *d*. It is evident that this will break the circuit to the coil 275 of the relay 245 and will thereby break the circuit to the solenoid coils 74 and 163. The spring 71 will then cause the front arresting bar 53 to return to raised or operative position as the rear arresting bar 54 is returned to lowered or inoperative position, whereupon a succeeding roll R will then be positioned against the front arresting bar 53 preparatory to a repeat operation.

Also, at the time that the front arresting bar 53 of the transfer mechanism is returned to operative position, the spring 180 causes the shifting shaft 152 in the housing 116 to move from left to right in Figure 9 to return the clutch member 144 to operative position as the clutch member 145 is moved to inoperative position and to thereby reverse the direction of rotation of the stripper rolls 80 and 81. In this instance, the stripper rolls 80 and 81 will then rotate in a counterclockwise direction in Figures 4 and 18.

The stripper rolls 80 and 81 are caused to rotate in a counter-clockwise direction for a predetermined period of, say, fifteen to thirty seconds, due to the further delaying action of the time-delay-relay mechanism 247, since there is a lapse of time between the time at which the switch 273 is moved to open position and the time at which the switch bar 292 again engages the terminals or contacts *e* and *f*.

It might be stated that the relay 245 could possibly be omitted, if the wire 274 were connected directly to a medial portion of the wire 76. However, the relay 245 is provided for convenience in connecting the various conductors to the time-delay-relay mechanism 247 and also to further slightly delay the operation of the clutch mechanism disposed within the housing 116 and the relative reciprocation of the arresting bars 53 and 54 as compared to the operation of the ejector mechanism 185.

A most important feature of the present invention is embodied in the rotation of the stripper rolls 80 and 81 in first one direction and then in the other while a single roll R is being cleaned since the initial rotation of the stripper rolls 80 and 81 substantially parallelizes or smooths out the fibers or other residual matter on each successive roll R as it is directed thereto and, upon reversing their direction of rotation, the stripper rolls 80 and 81 cause the residual fibers and strand material to

unwind from the particular roll R being operated upon by the stripper rolls **80** and **81** due to the constantly moving air currents effected at the apertures or openings **224** in the nozzle **222** of the suction device **221**.

Of course, the residual fibers and strand material are caused to be unwound from the roll R disposed between the stripper rolls **80** and **81** due to the suction means and, thus, the residual fibers, strand material and the like are carried away through the pipe **226**.

After the stripper rolls **80** and **81** have rotated in said reverse or counter-clockwise direction for a given period of, say, fifteen to thirty seconds, the switch bar **292** moves into engagement with the terminals or contacts *e* and *f* to again complete the circuit to the solenoid coil **300** to effect a repeat operation of the various movable parts of the mechanism of the apparatus as heretofore described. Of course, since there will then be a roll R positioned between and above the stripper rolls **80** and **81**, the sudden upward movement of the ejector bar **186** will cause the same to strike the roll R at substantially the same time that the stripper rolls **80** and **81** are caused to resume their original direction of movement or clockwise movement, in this instance. As the ejector bar 186 strikes the roll R disposed between the stripper rolls **80** and **81**, this will propel the roll R upwardly and over the front stripper roll **81**, whereupon the roll R will fall onto the tray or discharge chute **210** to be discharged into a suitable container, not shown.

Although specific delay mechanisms and the like are shown in Figure 18, it is evident that various modifications may be made in the particular manner in which the electrical devices are arranged without departing from the spirit of the invention. Of course, there are also other specific ways in which the transfer mechanism, the ejector mechanism **185** and the stripper rolls **80** and **81** may be constructed and operated also without departing from the spirit of the invention.

It is thus seen that there is provided an improved method for stripping loose fibers from textile rolls wherein rolls may be stacked on the magazine **32** and successively released one at a time and directed onto the stripper rolls **80** and **81** in timed relation to the direction of rotation of the stripper rolls **80** and **81**, and each cleaned roll R is automatically ejected from the stripper rolls **80** and **81** immediately prior to a succeeding roll R being directed to the stripper rolls **80** and **81**, thus providing a method by which the roll stripping operation may be carried out continuously.

In the drawings and specification there has been set forth a preferred embodiment of the invention and, although specific terms are employed, they are used in a generic and descriptive sense only and not for purposes of limitation, the scope of the invention being defined in the claims.

I claim:

1. That method of removing previously collected random fibers and the like from textile clearer rolls and the like which comprises rotating said clearer rolls in engagement with at least one rotatable stripper roll first in one direction and then in the other direction while subjecting the rolls to suction currents to thereby cause said fibers to be withdrawn from the rolls.

2. That method of removing previously collected fibers and the like from textile clearer rolls which includes rotating said clearer rolls in engagement with rotatable stripper rolls first in one direction and then in the other direction while creating suction currents immediately adjacent said clearer rolls for withdrawing the fibers therefrom.

3. That method of removing previously collected fibers and the like from textile clearer rolls which includes rotating said clearer rolls in engagement with at least one rotatable stripper roll first in one direction and then in the other direction while creating suction currents immediately adjacent said clearer rolls for withdrawing the fibers therefrom.

4. That method of removing previously collected random fibers and the like from textile clearer rolls and the like which comprises the steps of applying pressure against the fibers on the peripheries of the rolls in one direction by rotating the clearer rolls in engagement with and at the same surface speed as a moving stripper element to at least partially parallelize said fibers and, thereafter, applying pressure against the fibers on the rolls in the opposite direction by rotating the clearer rolls in engagement with and at the same surface speed as the moving stripper element while subjecting the rolls to suction currents to thereby cause said fibers to be withdrawn from the rolls.

5. That method of removing indiscriminately positioned fibers and the like from textile clearer rolls and the like utilizing at least one horizontally disposed stripper roll which includes guiding the clearer rolls into contact with and in parallel relation to said stripper roll, one at a time, repeatedly rotating said striper roll first in one direction and then in the other direction, and while creating suction currents adjacent and in substantially parallel relation to said stripper roll.

6. That method of removing accumulated fibers and the like from textile clearer rolls utilizing a pair of closely spaced horizontally disposed stripper rolls which comprises successively feeding clearer rolls, one at a time, onto and between the stripper rolls, rotating said stripper rolls first in one direction and then in the other direction while creating suction currents immediately adjacent each successive clearer roll while it is upon the stripper rolls for withdrawing the fibers from each successive clearer roll and ejecting each successive clearer roll positioned upon and between the stripper rolls prior to each succeeding clearer roll being fed onto and between the stripper rolls.

7. That method of removing accumulated fibers and the like from textile clearer rolls utilizing a horizontally disposed stripper roll which comprises successively feeding clearer rolls, one at a time, onto the stripper roll, rotating said stripper roll first in one direction and then in the other direction while maintaining the corresponding clearer roll in parallel contact with the stripper roll and while creating suction currents immediately adjacent each successive clearer roll while it is upon the stripper roll for withdrawing the fibers from each successive clearer roll, and ejecting each successive clearer roll positioned upon the stripper roll prior to each succeeding clearer roll being fed onto the stripper roll.

No references cited.